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EXAMINER				
BIRBACH, NAOMI L				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,613

Applicant(s)

CLASSEN, EGBERT

Examiner

NAOMI BIRBACH

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 11-22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 11-22 are pending. Claims 1-10 have been cancelled. Applicant's amendments filed 4/30/09 have been considered.

Withdrawn Rejections

2. The objections to the specification, drawing, claims and the rejections under 35 U.S.C. 112, second paragraph have been withdrawn in view of applicant's amendments filed 4/30/2009.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 21 recites "whereby an operator can add cleaning agents during the cleaning operation on the basis of an indicated concentration." However, claim 1 claims "a dosing device that alternately supplied additional cleaning agent to the cleaning liquid in the event that the sensed content of washing-active substances is below a predetermined lower value..." It is unclear how a user would add cleaning agents if they are to be automatically added by a dosing device, rendering this claim indefinite.

6. Claim 22 recites the limitation "the device for displaying values" in lines 1-2.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 11, 12, 15, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,725,001 to Vogel.
9. As to claim 11, Vogel discloses a dishwasher, which is an appliance operable to carry out at least one cleaning process using liquid, which includes a sump for dispensing a cleaning liquid and a wash compartment where an object to be cleaned comes into contact with washing liquid (Col. 2, lines 46-47, 65-66). The dishwasher also includes a dispensing device for supplying cleaning agent, i.e. detergent, to the cleaning liquid and a sensor in the form of a pH sensor, which measures the pH of the wash liquid during the cleaning process (Col. 1, lines 46-50). Detergent is understood to read on applicant's claimed cleaning agent as well as applicant's claimed washing-active substances, as these substances are present in detergent. The pH value is an indication of the type of detergent present; thereby it determined the content of washing-active substances in the cleaning liquid. In response to the value sensed, an appropriate wash program is run (Col. 1, lines 59-63). If the sensed pH value is lower

than a predetermined value, indicating that the sensed content of washing-active substances is low, additional cleaning agent is dispensed into the cleaning liquid (Col. 2, lines 1-6). If the sensed pH value is above a predetermined value, indicating that the content of washing-active substances is high, an extra rinse cycle with fresh water is run by the program control (Col. 2, lines 20-31).

10. As to claim 12, Vogel further discloses that the system for supplying cleaning agent to the cleaning liquid is regulated as a function of the content of washing-active substances in the cleaning liquid determined by the sensor by means of an electronic control (Col. 1, lines 46-50, 57-60).

11. As to claim 15, Vogel discloses a method for operating a dishwasher, which is an appliance operable to carry out at least one cleaning process using cleaning liquid. The method comprises determining the content of washing active substances in a cleaning liquid supplied by the cleaning agent, i.e. detergent, via a dispensing system by measuring the pH value of the cleaning liquid (Col. 1, lines 46-50), thereby determining the type of detergent supplied by the dispensing device (Col. 1, lines 55-60). Detergent is understood to read on applicant's claimed cleaning agent as well as applicant's claimed washing-active substances, as these substances are present in detergent. Where the pH value is lower than a predetermined value, indicating that the content of washing-active substances is low, additional cleaning agent is supplied into the cleaning liquid (Col. 2, lines 1-6). Where the pH value is higher than a predetermined value, indicating that the content of washing-active substances is high, an extra rinse cycle

with fresh water is run by the program control (Col. 2, lines 20-31), thereby supplying fresh water to the cleaning liquid.

12. As to claim 16, Vogel further discloses that the content of washing-active substances in the cleaning liquid is determined by continuously determining the content of washing active substances in the cleaning liquid (Col. 1, lines 57-60). The continuous monitoring of the pH value of the wash liquid indicates the content of washing active substances in the detergent in the cleaning liquid (Col. 1, lines 57-67).

13. As to claim 18, Vogel further discloses that a pH sensor is used to determine the content of detergent in the cleaning liquid (Col. 1, lines 37-40).

14. As to claim 19, Vogel teaches that at least part of the cleaning process may be repeated depending on the content of washing-active substances in the cleaning liquid, by providing an extra rinse cycle if the pH is too high (Col. 2, lines 20-31).

16. Claims 11, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 1,968,172 to Johnson.

17. As to claim 11, Johnson discloses an appliance operable to carry out a cleaning process with cleaning liquid (Col. 1, lines 25-31). The appliance includes an assembly for circulating a cleaning liquid (Col. 3, lines 12-18) as well as a washing basket which allows an item to be cleaned to come into contact with the cleaning liquid (Col. 3, lines 73-75). The appliance includes a system with a sensor to determine the detergency condition of a cleaning liquid as well as dispensing capabilities for automatically adding detergent to obtain a desired detergency value (Col. 1, lines 41-44; Col. 2, lines 36-41).

Johnson teaches that the amount of detergent in a washing liquid affects the surface tension of the liquid (Col. 1, lines 66-70). The system includes a dosing device (dispenser) that can function automatically to add cleaning agent, i.e. detergent, when the washing liquid has a low detergent content (Col. 5, lines 24-33). Detergent is understood to read on applicant's claimed cleaning agent as well as applicant's claimed washing-active substances, as these substances are present in detergent. The system can also be used to control the rinsing cycle such that the addition and overflow of rinse water can be provided until a predetermined minimum detergency condition develops in the rinsing liquid (Col. 5, lines 46-57). It is understood that the addition of rinse water serves to lower the detergency, meaning that the detergent content was above a predetermined upper value.

18. As to claim 15, Johnson discloses a system for operating a washing appliance operable to carry out at least one cleaning process using liquid, where the detergency condition of a cleaning liquid is determined as the detergent is supplied into a washing basket where it mixes with the cleaning liquid (Col. 4, lines 29-31). Detergent is understood to read on applicant's claimed cleaning agent as well as applicant's claimed washing-active substances, as these substances are present in detergent. The system can function automatically to supply additional cleaning agent to the cleaning liquid in the event that the washing liquid has a low detergent content (Col. 1, lines 20-24, Col 5, lines 24-33). The system can also be used to control the rinsing cycle such that the addition and overflow of rinse water can be supplied until a predetermined minimum detergency condition develops in the rinsing liquid (Col. 5, lines 46-57). It is understood

that the addition of rinse water serves to lower the detergency, meaning that the detergent content was above a predetermined upper value.

19. As to claim 17, Johnson further discloses that determining the content of washing-active substances in the cleaning liquid includes determining the content via electronic means (Col. 2, lines 10-16).

20. As to claim 18, Johnson further discloses that the content of washing-active substances in the cleaning liquid is determined via a sensor (Col. 2, lined 36-41).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 1,968,172 to Johnson in view of USPN 5,404, 606 to Mueller-Kirschbaum et al.

23. Johnson is relied upon as discussed above with respect to the rejections of claims 11 and 15.

24. As to claims 13, 14 and 16, Johnson discloses that the sensor measures the dropping frequency of cleaning liquid discharged through a tube which is affected by the surface tension of the cleaning liquid as a result of the amount of detergent in the washing tub. The surface tension of the cleaning liquid controls the size of the drops,

which in turn controls the dropping frequency (Col. 1, lines 61-70). Johnson does not expressly disclose that the sensor is a tenside sensor that determines the content of tensides in the cleaning liquid by means of the bubble pressure method, or that the tenside sensor in the appliance is surrounded by cleaning liquid as continuously as possible during the cleaning process, or that the content of the washing active substances is determined continuously or at short time intervals.

25. Mueller-Kirschbaum discloses that a bubble tensiometer is used to measure the surface tension of the washing liquid to determine the detergent concentration (Col. 2, lines 3-17). Mueller-Kirschbaum discloses that the capillaries (Fig. 12, Ref. #8, 9) of the tensiometer are surrounded by cleaning liquid (Fig. 12, Ref. #11). Mueller-Kirschbaum discloses that the surface tension is measured continuously (Col. 2, lines 4-6; Col. 3, lines 1-4).

26. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system as taught by Johnson to include a bubble tensiometer that is surrounded by cleaning liquid to measure the surface tension continuously as taught by Mueller-Kirschbaum, in order to determine cleaning agent and washing-active substance concentration. One of ordinary skill would have been motivated to determine detergent content with a bubble tensiometer as it a known method of measuring surface tension and it allows the sensor to be universally used without having to be specially adapted to certain washing conditions (Col. 2, lines 20-28). One of ordinary skill would have been motivated to surround the sensor with cleaning liquid so that the surface tension of the cleaning liquid can be continuously measured. It is desirable to measure

the surface tension continuously so that the addition of cleaning agent can be immediately terminated once a sufficient amount of washing-active substances is sensed (Col. 2, lines 5-14), thereby reducing the amount of cleaning agent and washing time which minimizes energy and water used for the washing process (Col. 3, lines 23-30).

27. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,725,001 to Vogel as applied to claim 18 above, and further in view of GB 2052251 A to Buttner et al.

28. Vogel is relied upon as discussed above with respect to the rejection of claim 18.

29. As to claim 20, Vogel does not expressly disclose that a selected one of omission of at least part of the cleaning process and interruption of at least part of the cleaning process is undertaken depending on the content of the washing-active substances in the cleaning liquid determined by the sensor.

30. Buttner discloses that a rinsing operation originally programmed to perform five rinsing cycles can be stopped after the fourth rinsing cycle if the optimum concentration of washing agent is sensed (Page 2, lines 51-54, 61-67), which reads on applicant's claimed omission of at least part of the cleaning process.

31. It would have been obvious to one of ordinary skill in the art to modify the method as taught by Johnson to include the omission of at least part of the cleaning process as taught by Buttner. One of ordinary skill would have been motivated to omit part of the

cleaning process to create a method of operating washing apparatus which is energy-saving and environmentally compatible (Page 1, lines 75-80).

32. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,725,001 to Vogel as applied to claim 11 above, and further in view of USPN 4,509,543 to Livingston et al.

33. Vogel is relied upon as discussed above with respect to the rejection of claim 11.

34. As to claims 21 and 22, Vogel further discloses that the operator can influence the dishwasher program by selecting a certain function or extra functions, such as to move the pH into a higher or lower range for different degrees of dirt (Col. 1, lines 42-44; Col. 2, lines 10-19). The pH is determined by a sensor and is an indication of the type of detergent present; thereby it determines the content of washing-active substances in the cleaning liquid (Col. 1, lines 46-50). Vogel does not expressly disclose that the appliance comprises a device for displaying values related to the content of washing-active substances in the cleaning liquid determined by the sensor, whereby an operator can add cleaning agents during the cleaning operation the basis of an indicated concentration or that the display device includes a component for generating an acoustic signal.

35. Livingston discloses a monitor (device for displaying values) and controller that is connected to probes (sensor) which determine the amount of detergent and display values to indicate if the detergent content is low (Col. 3, lines 55-65; Col. 4, lines 14-19). Detergent content is a value relating to the content of washing-active substances in the

cleaning liquid because detergent contains washing-active substances. If the concentration of the detergent is too low, an operator can add cleaning agents during the cleaning operation (Col. 7, lines 63-68). The display device further includes a component for generating an acoustic signal (Col. 4, lines 14-26; 39-41)

36. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the appliance taught by Vogel to include a device for displaying values relating to the detergent condition of the dishwasher as taught by Livingston so that an operator can be made aware of the condition of the washing-active substances so that modifications can be made if necessary. One of ordinary skill would have been motivated to include a component for generating an acoustic signal so that an operator can be notified to attend to the dishwasher, even when not in close proximity.

Response to Arguments

37. Applicant's arguments filed 4/30/2009 have been fully considered but they are not persuasive.

38. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

39. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, this motivation was provided in the rejections of claims 13, 14 and 16 on Pages 9-10 of the office action dated 11/25/08. Johnson discloses that the **sensor** measures the dropping frequency of cleaning liquid discharged through a tube which is affected by the **surface tension of the cleaning liquid as a result of the amount of detergent in the washing tub**. The surface tension of the cleaning liquid controls the size of the drops, which in turn controls the dropping frequency (Col. 1, lines 61-70). While Johnson does not expressly disclose a bubble tensiometer, Mueller-Kirschbaum discloses that a bubble tensiometer is used to measure the surface tension of the washing liquid to determine the detergent concentration (Col. 2, lines 3-17). Mueller-Kirschbaum, teaches that bubble tensiometers are known to be used for measuring surface tension and allow the sensor to be universally used without having to be specially adapted to certain washing conditions (Col. 2, lines 20-28), thereby providing motivation to one of ordinary skill to incorporate the bubble tensiometer into the appliance taught by Johnson.

Conclusion

40. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

41. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAOMI BIRBACH whose telephone number is (571)270-7367. The examiner can normally be reached on Monday-Friday, 8:00am-5:30pm.

43. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

44. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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6/18/09